



Town of Discovery Bay  
Community Services District

# Draft Urban Water Management Plan (& Emergency Drought Regulations)

April 14, 2015



Well 7 Site



LUHDORFF & SCALMANINI  
CONSULTING ENGINEERS

# Notice of Emergency Drought Regulations

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1. Executive Order (4/1/15) State of Emergency
2. Most severe drought on record – 1<sup>st</sup> ever mandatory reductions
3. Save Water, Increase Enforcement, Streamline Government Response, Invest in New Technologies
  - 25% statewide reduction in potable urban water use
  - 50 million SF lawn replacement
  - Temporary rebates will be offered by California Energy Commission
  - Impose restrictions on CII, campus, golf courses, etc water use
  - Prohibit potable water for turfs in medians, or new homes without drip or micro-spray systems
  - rates and penalties – Water Board to work with water agencies

# Emergency Drought Regulations

25% Statewide - apportioning reductions: Suppliers with higher per capita water use face greater reductions

Tier	R-GPCD Range (Sept 2014)	# of Suppliers within Range	Conservation Standard
Tier 1	Under 55	18	10%
Tier 2	55-110	126	20%
Tier 3	110-165	132	25%
Tier 4	Over 165	135	35%

TODB September 2014 R-GPCD = 227.7

Tier 4

35% Reduction Mandated (June-Feb 2015/16)

State average = 195 GPCD

# Emergency Drought Regulations

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## 1. Compliance Assessment

- Water production of June - February 2015/16 compared to water production of June - February 2013/14
- State Board will assess compliance Monthly and Cumulative usage

## 2. Enforcement

- Informal – warning letters – no monetary penalty
- Formal Cease and Desist Orders (CDO) – actions and timeline
- Failure to comply with CDO can result in penalties up to \$10,000 for each day of non-compliance.

## 3. Schedule

# Emergency Drought Regulations

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## Suggestions for TODB

- Implement Water Shortage Contingency Plan (Appendix C of UWMP)
- Prohibitions & Penalties: washing cars, reduced watering schedules, hoses without nozzles, washing driveway, sidewalk or house, water features, leaks
- Inform residents about time-limited statewide appliance rebate
- Ask residents to conserve – Summer month focus
- Good year for front yard conversion? (Grass-to-Garden)
- Target large Commercial & Schools water efficiency
- Prohibit potable water for public street medians turf
- Customer meters? –tool for tracking/managing water use

# UWMP Topics

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1. Purpose of UWMP – compared to Water Master Plan
2. Regulations for an Urban Water Management Plan (UWMP)
3. Baseline Water Use and Water Use Reduction Goals
4. System Supplies
5. Water Supply Reliability & Water Shortage Contingency
6. Demand Management Measures (Conservation)
7. Next Steps

# 1. Purpose of the Urban Water Management Plan

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- To direct the long-term planning of water resources to meet existing and future demands.
- Required by the State for every urban water supplier +3000 connection or +3000 ac-ft/yr
- The 2010 UWMP must include water conservation and 20x2020 target reductions
- Must also address alternative sources of supply, e.g. recycled water, transfer, desalinization
- Provides the State with a consistent reporting format by all agencies to assess statewide water supply needs.

# 1. Compare and Contrast to Water Master Plan

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## Water Master Plan

- Planning doc for water agencies
- Provides agencies an organized plan for supply, demand, infrastructure and regulatory issues
- Identifies a 10-year Capital Improvement Plan to meet future growth
- Used for financial planning to set rate structures and annual budgets

## Urban Water Management Plan

- State-mandated planning doc
- Consistent format for State to assess statewide issues
- Focus on source issues (e.g. groundwater) not infrastructure
- Identifies 20-year population growth and supply & demand
- Requires conservation goals and Demand Management Measures
- Required for state funding/grants

## 2. Regulations Relevant to 2010 UWMP

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### Relevant Regulations to UWMP

- Urban Water Management Plant Act
- • Water Conservation Bill of 2009 (SBX7-7)
- 20x2020 Water Conservation Plan
- • Water Supply Assessments (SB 610)
- Written Verifications of Water Supply (SB 221)
- Water Meters (AB 2572)
- DMM Implementation Compliance (AB 1420)
- Model Water Efficient Landscape Ordinance (AB 1881)
- Contra Costa County General Plan

### 3. Baseline Water Use and Water Reduction Goals

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#### SBX7-7: TODB baseline and target water use

Baseline daily per capita water use = 261 GPCD

Water used within the distribution system on a per capita basis over a 10-year base period (2000-2010). Population estimates derive from U.S. Census.

Urban Water Use Target by 2020 = 209 GPCD

Must be 20% of the Baseline; or 95% of regional target; or setting individual targets for indoor use, landscaping, and CII.

Interim Water Use Target by 2015 = 235 GPCD

Average of 2010 Baseline and 2020 Target.

# 3. Baseline Water Use and Water Reduction Goals

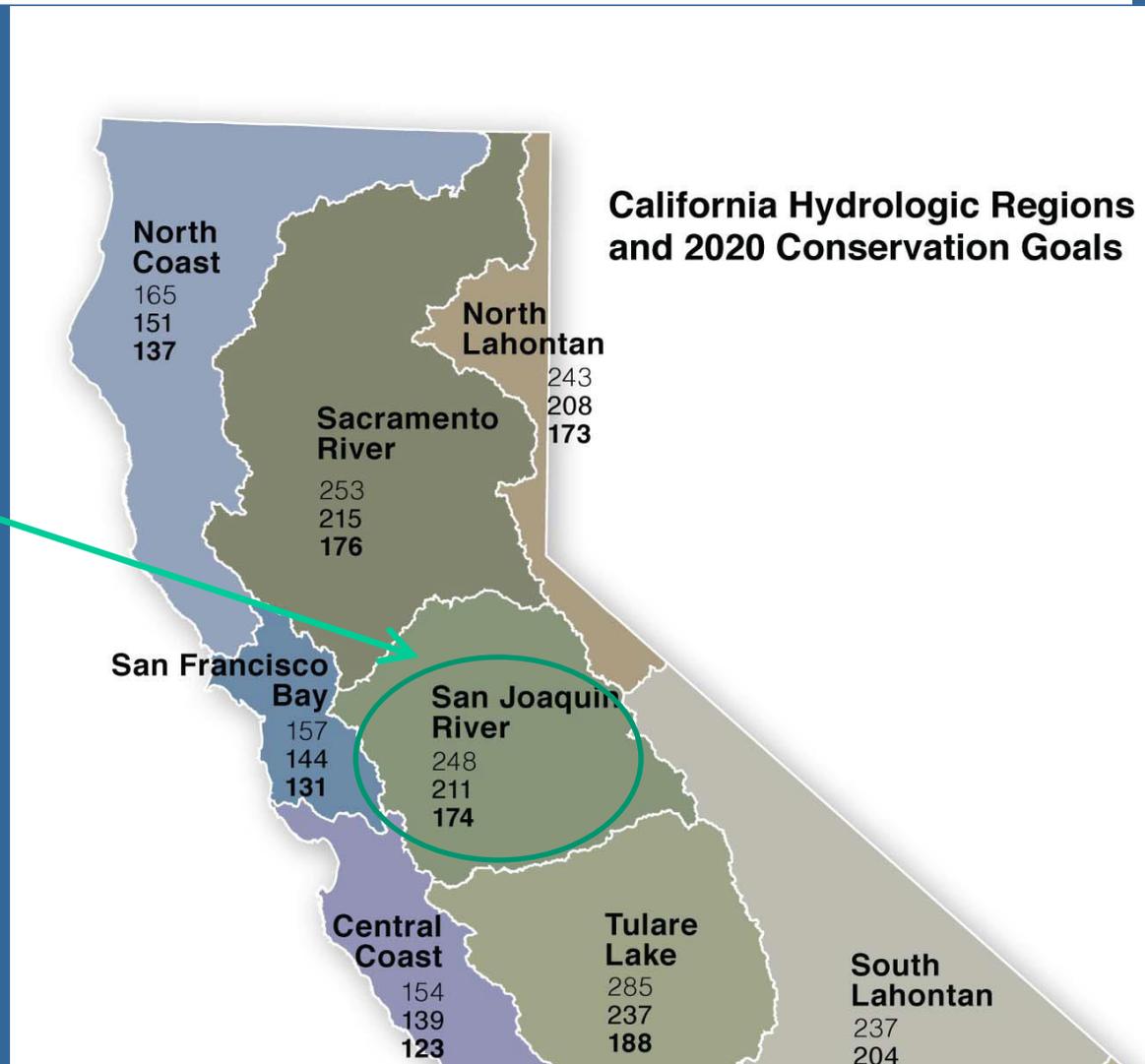
## Regional Targets

San Joaquin River  
Region

Baseline  
248 GPCD

2015 Interim  
211 GPCD

2020 Goal  
174 GPCD



# 3. Baseline Water Use and Water Reduction Goals

Comparison with other nearby agencies

Nearby Urban Water Suppliers	Target Method	Avg Baseline Population	Baseline GPCD	Target GPCD 2015	Target GPCD 2020
Town of Discovery Bay	Method 1	11,768	261	235	209
Brentwood City of	Method 1	41,881	235	211	188
Los Banos, City of	Method 1	30,304	233	210	186
Tracy City of	Method 1	57,054	227	204	182
Stockton City of	Method 3	146,896	195	180	165
Antioch City of	Method 3	96,443	186	175	165
California Water - Stockton	Method 3	161,432	182	174	165
Diablo Water District	Method 3	23,717	175	166	157
<b>SAN JOAQUIN REGIONAL GOALS</b>	N/A	N/A	248	211	174

# 3. Baseline Water Use and Water Reduction Goals

Forecasting Based on Growth and Reductions

## Population

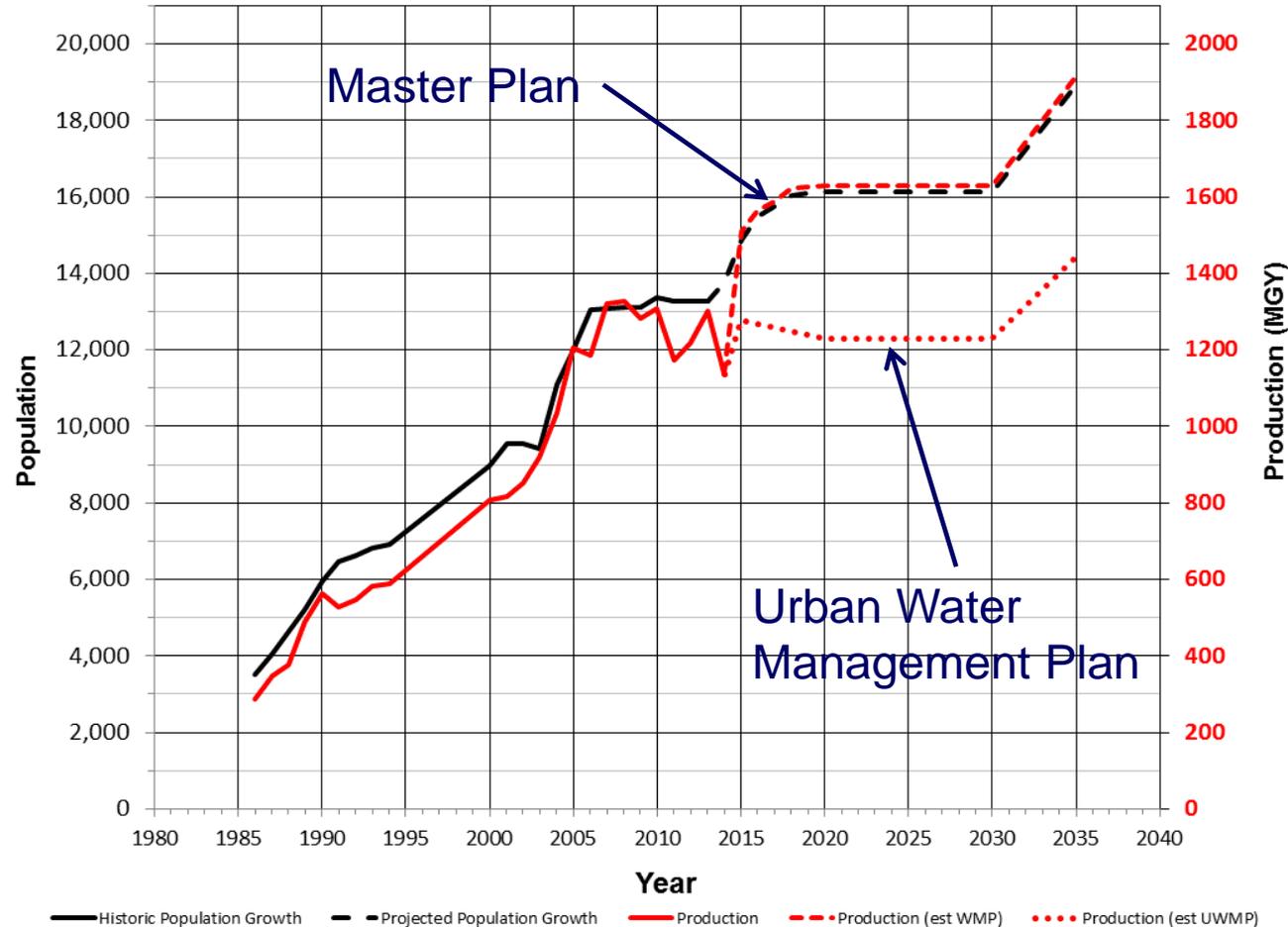
17% Growth to 2020  
37% Growth to 2035

## Master Plan

Follows historic

## UWMP

20% by 2020



# 3. Baseline Water Use and Water Reduction Goals

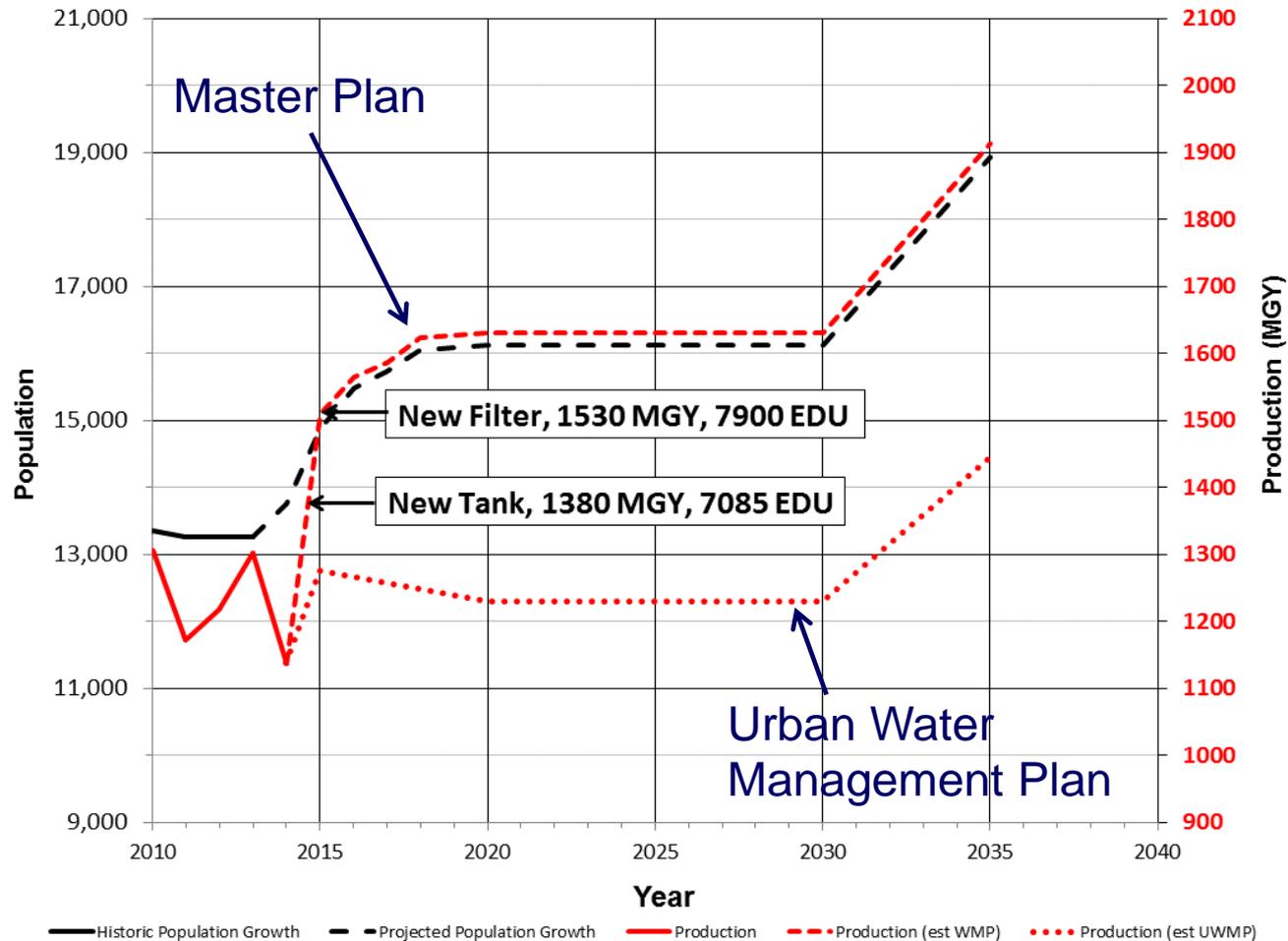
Forecasting Based on Growth and Reductions

## Master Plan

Follows trend  
CIP planning basis

## UWMP

Assumes reduction  
20x2020 goals and  
conservation  
measures



# 3. **Baseline Water Use and Water Reduction Goals**

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## **If the 20x2020 Goals are met it will:**

- Reduce water requirements Annually (reduce pumping and treatment operational cost)
- Potentially reduce Maximum Day Demand factor (i.e. due to emphasis on reducing summer demands)
- Revenue impacts

## **When does the CIP Basis change?**

- Demonstrated new water demand regime (ADD, MDD, PHD)
- Typically 10-years of data is used to assess current and future

## 4. System Supplies in the UWMP

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### Groundwater - San Joaquin Groundwater Basin

- “Water levels and water quality data indicate stable groundwater conditions at current levels of pumping.”

### Recycled Water Opportunities

- 28 MGY WWTP onsite project to be online this year (2% of production savings)
- Future tertiary treatment system → Title 22 recycled water
- Purple pipe potential: 150 MGY, 5 mile, water quality

## **5. Water Supply Reliability and Water Shortage Contingency Plan**

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### Water Supply Reliability

- Groundwater Supplies have been reliable through previous and current drought conditions
- TODB taking action to develop GSP in accordance with Groundwater Management Act of 2014
- Redundant supply wells are in place to meet MDD at all times

### Water Shortage Contingency Plan – Draft Ordinance

- Water rationing in the event of a shortage
- Focuses on catastrophic loss of wells or mandatory state orders.

## 6. Demand Management Measures

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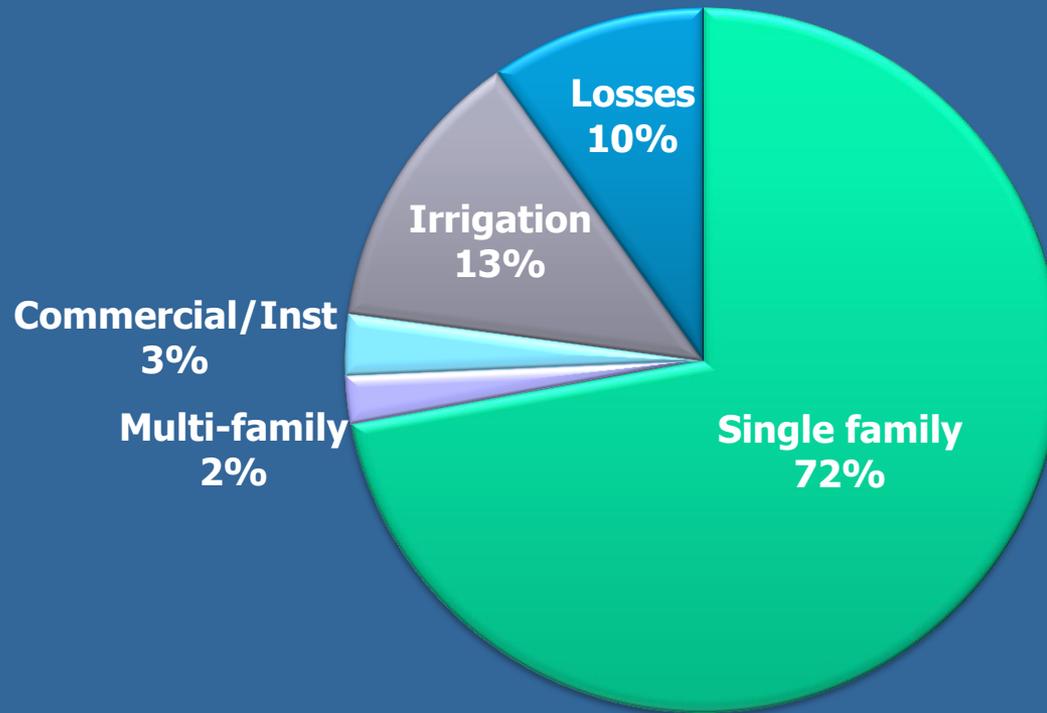
There are 14 DMMs identified by the CUWCC

- A. Water survey programs for single-family residential and multifamily residential customers
- B. Residential plumbing retrofit
- C. System water audits, leak detection, and repair
- D. Metering with commodity rates for all new connections and retrofit of existing connections
- E. Large landscape conservation programs and incentives
- F. High-efficiency washing machine rebate programs
- G. Public information programs
- H. School education programs
- I. Conservation programs for commercial, industrial, and institutional accounts
- J. Wholesale agency programs
- K. Conservation pricing
- L. Water conservation coordinator
- M. Water waste prohibition
- N. Residential ultra-low-flush toilet replacement programs

## 6. DMMs

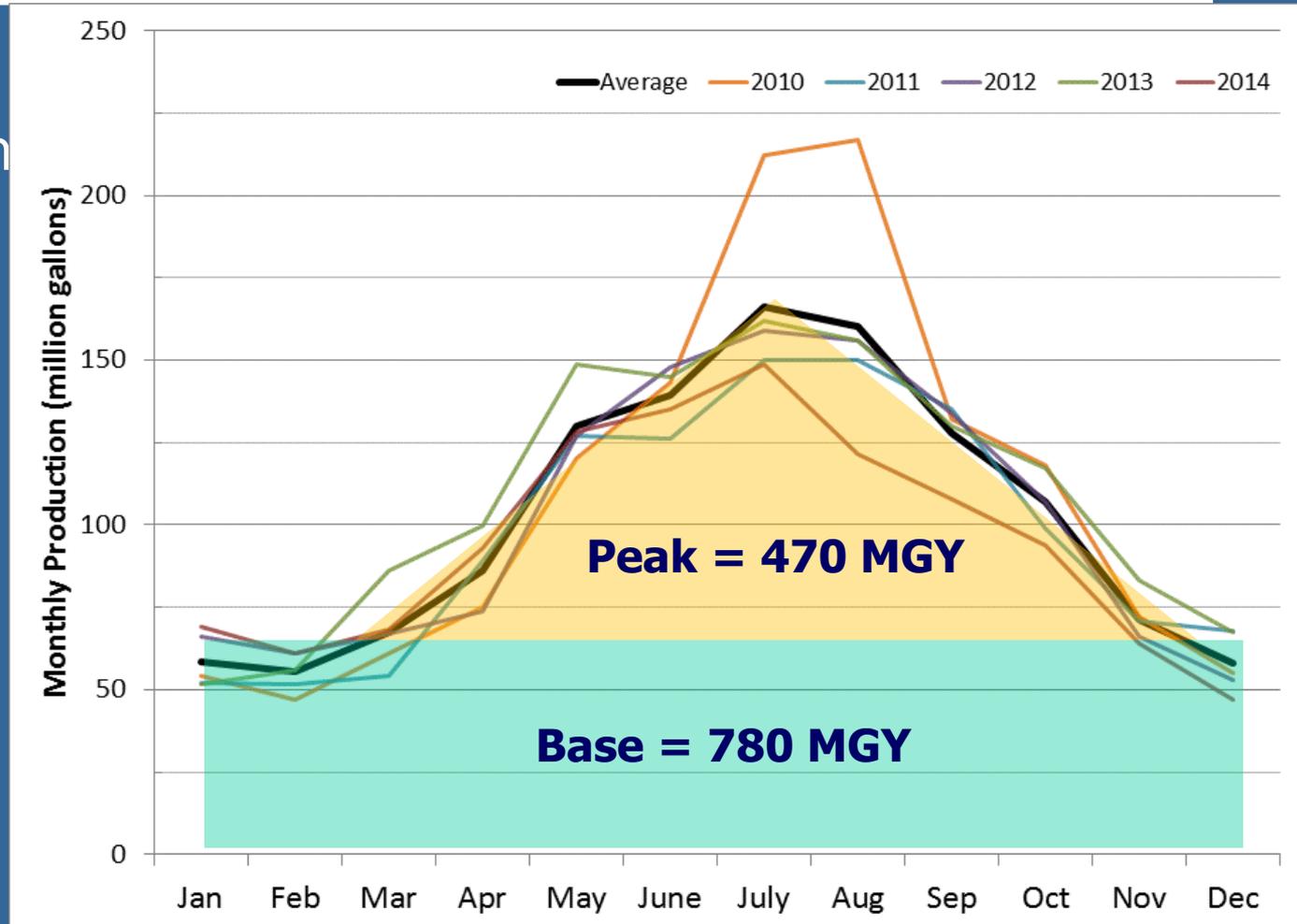
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Annual Water Use by Sector



# 6. DMMs

## Monthly Production Curve



## 6. DMMs

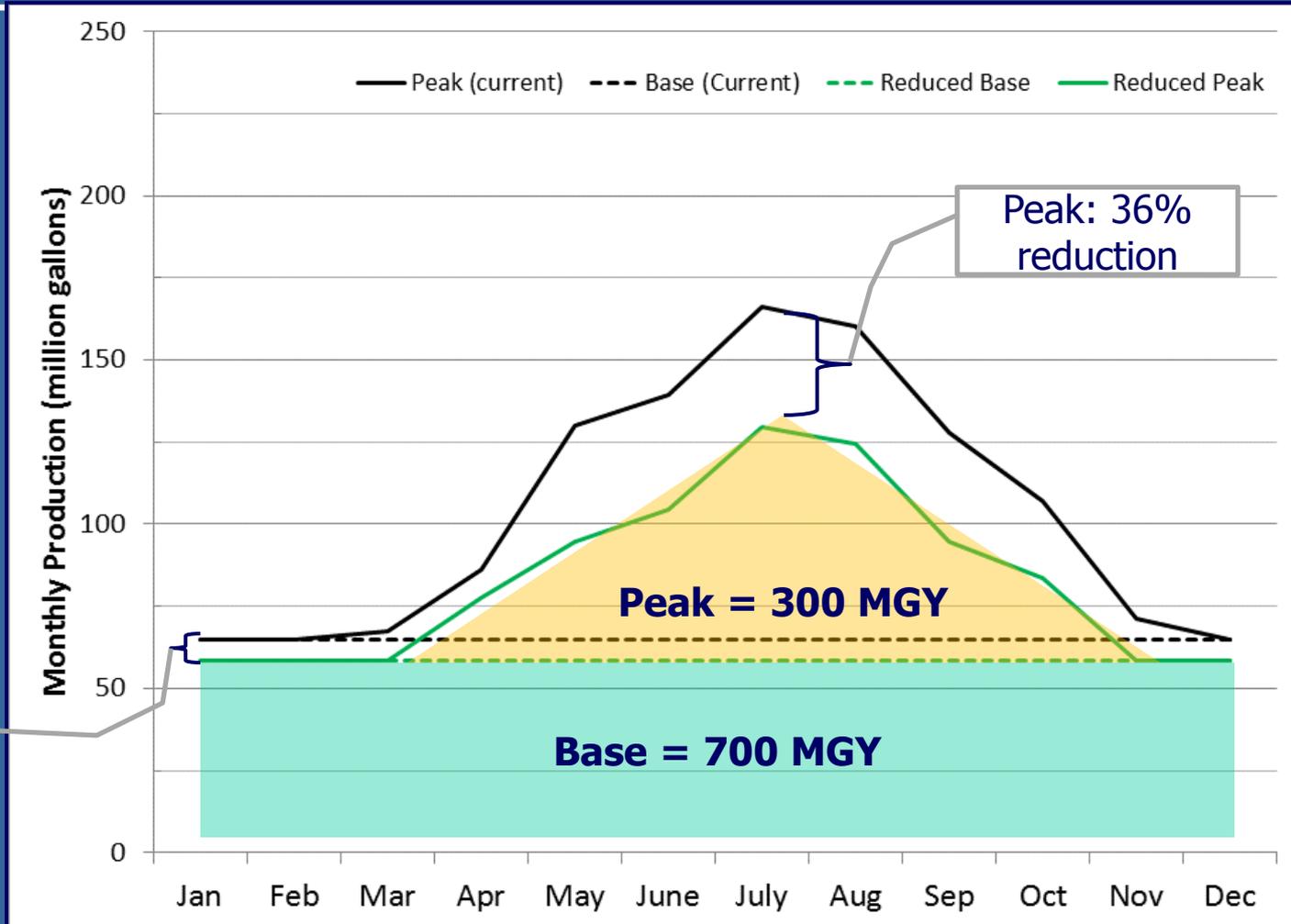
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### Conceptual model to achieve 20% reduction per capita

- 20% reduction in SFR / MFR (14% total production)
  - *meters, commodity rates, surveys, audits and public information*
- 20% reduction in Landscaping (3% total production)
  - *create a WELO ordinance, require weather based controllers*
- 50% reduction in Losses (5% total production)
  - *Half of goal (28 MGY ) comes from WWTP project,*
  - *Others from pipe leakage repairs – meters will help!*

# 6. DMMs

## Monthly Production Curve



Base: 10% reduction

Peak: 36% reduction

Peak = 300 MGY

Base = 700 MGY

## 7. Next Steps

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- Preliminary Comments after today
- 60-day notice period of Public Hearing to review and adopt
- Concurrent review from DWR and neighboring agencies
- Provide revised Draft 2-weeks prior to public hearing
- Adopt following the meeting
- Send final adopted UWMP to DWR, Contra Costa County and California State Library
- Begin implementation of UWMP and DMMs

# UWMP

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Questions?



Town of Discovery Bay  
Community Services District

# Sustainability Groundwater Management Act

April 14, 2015



Well 7 Site



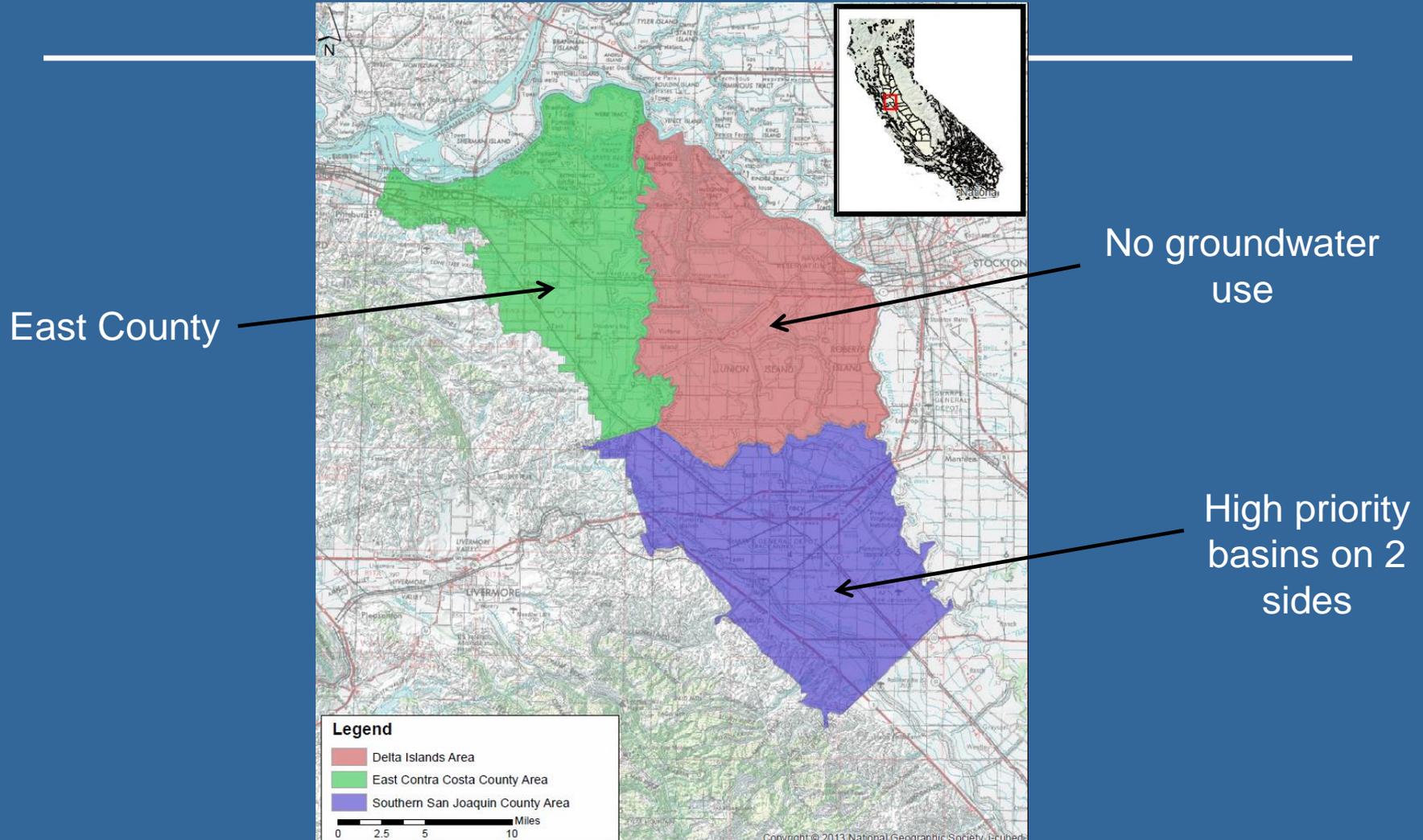
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# 2014 Sustainable Groundwater Management Act (SGMA)

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1. Requires certain basins to operate under a Groundwater Sustainability Plan by 2020 or 2022
  - TDB is within Tracy Subbasin
  - Tracy Subbasin ranked “Medium Priority” and is required to prepare a GSP according to the Act
2. TDB will be required to engage or form a Groundwater Sustainability Agency
3. Guidelines for GSAs and GSPs being developed by DWR
  - Include guidelines for Basin Boundary modifications and Alternative Submittals

# Tracy Subbasin and Subareas



# Groundwater Sustainability Agency

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## 10726.4. ADDITIONAL AUTHORITIES OF GSA

- (a) A groundwater sustainability agency shall have the following additional authority and may regulate groundwater extraction using that authority:
- (1) To impose spacing requirements on new groundwater well construction...
  - (2) To control groundwater extractions by regulating, limiting, or suspending extractions from individual groundwater wells or extractions from groundwater wells in the aggregate...
  - (3) To authorize temporary and permanent transfers of groundwater extraction allocations within the agency's boundaries...
  - (4) To establish accounting rules to allow unused groundwater extraction allocations issued by the agency to be carried over from one year to another...

# Purposes of Proposed Work

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1. Identify appropriate planning boundaries
  - DWR Basin boundaries are starting point
2. Evaluate groundwater conditions in East County area
  - Determine if Alternative Submittal applicable (if so, bypasses many reqs)
3. Engage other and interested parties
  - Includes other East County agencies, other entities in Tracy Subbasin (e.g., City of Tracy), and other pumpers
  - Meet with DWR
4. Develop a technical basis to support decisions by respective agencies on engaging (or forming) a GSA and developing a GSP as required under the 2014 SGMA

# Groundwater Conditions in Discovery Bay

